UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,916	01/22/2004	Daniel Manuel Dias	SVL920030091US1/4181P	6138

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EXAMINER
PARK, JEONG S

ART UNIT	PAPER NUMBER
2154	

NOTIFICATION DATE	DELIVERY MODE
09/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@sawyerlawgroup.com

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 August 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>34-49</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>34-49</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 29

August 2008 has been entered.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 34-49 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Regarding claim 34, line 6-8, "a plurality of discrete events that are less

numerically intensive that the parallel application which a numerically intensive

application" is indefinite to particularly point out the level of intensiveness of application.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 34-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Herington (U.S. Pub. No. 2005/0102387 A1) in view of Sankaranarayan et al.

(hereinafter Sankaranarayan)(U.S. Patent No. 6,799,208 B1), and further in view of

Merkling et al. (hereinafter Merkling)(U.S. Patent No. 5,841,869).

Regarding claim 34, Herington teaches as follows:

a method for supporting a transaction application workload (interpreted as one

application 355 in figure 3) and a parallel application workload (interpreted as the other

application 360 in figure 3) on one server cluster (320 or 330 in figure 3) including

server nodes at one domain and configured to process the transaction application

workload and the parallel application workload (each cluster supports both applications,

see, e.g., page 2, paragraph [0021]), the method comprising:

receiving a request from a client (clients 302-306 in figure 3) to execute the

transaction application workload on the one server cluster (cluster 322 or 330 in figure

3)(clients issue transactions to application via a network to communicate with clusters,

see, e.g., page 2, paragraph [0021]);

identifying a service level agreement negotiated with the client for the transaction

application workload, the service level agreement (performance goals, see, e.g., page

2, paragraph [0022]) specifying performance requirements for execution of the

transaction application workload on the one server cluster and acceptable performance

of execution of the one server cluster in response to the transaction application and the

parallel application (the incorporated Romero et al. (hereinafter Romero)(U.S. Pub. No.

2002/0069279 A1) teaches an apparatus and method for routing a transaction to a

server based on a requested level of service associated with the transaction, see, e.g.,

abstract);

assigning a subset of the server nodes in the one server cluster at the one

domain to execute the transaction application workload (load balancer monitors service

levels provided by each node of cluster and routes transactions to one of the nodes

based on the level of service that the node is providing, see, e.g., page 2, paragraph

[0019]);

monitoring execution of the transaction application workload (performance

information) on the subset of server nodes assigned to execute the transaction

application workload to determine whether the performance requirements for execution

of the transaction application workload and acceptable performance of execution of the

one server cluster in response to the transaction application and the parallel application

specified in the service level agreement are being met (workload manger receives

performance information from applications, see, e.g., page 2, paragraph [0023]);

responsive to a determination that the performance requirements for execution of

the transaction application workload specified in the service level agreement are not

being met, dynamically reassigning one or more of the server nodes in the one server

cluster at the one domain assigned to execute the parallel application workload to the

execution of the transaction application workload in order to meet the performance

requirements for execution of the transaction application workload and acceptable

performance of execution of the one server cluster in response to the transaction

application and the parallel application specified in the service level agreement

(workload manager dynamically allocate and adjust computer resources between
applications based on performance goals and performance information, see, e.g., page
2, paragraph [0024]); and

wherein a server node (node 240 in figure 2) assigned to execute the transaction
application workload (application 255 in figure 2) cannot be concurrently assigned to
execute the parallel application workload (application 260 in figure 2) and a server node
(node 250 in figure 2) assigned to execute the parallel application workload cannot be
concurrently assigned to execute the transaction application workload (two node 240
and 250 are respectively dedicated to two different applications, see, e.g., page 1,
paragraph [0014]).

The incorporated Romero teaches as follows:

a server index (400 in figure 4, equivalent to applicant's) includes at least a
server identification and a corresponding service level (available current load) for each
server in the server pool that is managed by the load balancer (see, e.g., page 3,
paragraph [0027]): and

a service tag (220 in figure 2) indicates a requested level of service associated
with the transaction (see, e.g., page 3, paragraph [0028]).

The incorporated McCarthy et al. (hereinafter MaCarthy)(U.S. Patent No.
7,228,546 B1) further teaches that the workload manager allocates application's
partition bases on the goal information and priority information from a user or
administrator and performance information (see, e.g., col. 2, lines 27-40). Therefore it is
inherent to assign 100% of resource for one application.

Herington does not teach reassigning the node but reassigning computer resources.

Sankaranarayan teaches as follows:

resource manager (102 in figure 2) assigns resources to all descriptors contained in the listed activities using a provider supplied resource allocation function in a priority based scheme, see, e.g., col. 11, lines 45-62 and figure 3);

resource allocation process using priority-based preemption (see, e.g., col. 14, lines 55-59 and figure 6); and

reallocating the resource from lower priority activity to the higher priority activity (see, e.g., col. 15, lines 8-48 and figure 6).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Herington to include a resource manager allocating a resource provider depends current request from clients as taught by Sankaranarayan in order to efficiently allocate the intersecting nodes (242-248 in figure 2) to one of applications (255 or 260) based on the current request from clients.

Herington in view of Sankaranarayan does not teach that the transaction application comprising a plurality of discrete events that are less numerically intensive that the parallel application which comprises a numerically intensive application.

Merkling teaches as follows:

heavy transactions applications and parallel applications often require dynamic process migration and load balancing to meet the fundamental properties required for such resource management (see, e.g., col. 12, lines 18-31).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Herington in view of Sankaranarayan to include managing both transaction and parallel applications under same resource management as taught by Merkling in order to efficiently allocate different application process to the proper host computer(s) in grid environment.

Regarding claim 35, Herington in view of Sankaranarayan presented above per claim 34 for all the limitations on claim except for predicting performance requirements in the service level agreement.

The incorporated Romero teaches that the server index can be based on known capabilities and predicted service levels of the servers in the server pool based on past performance, see, e.g., page 4, paragraph [0033]).

Regarding claims 36-38, Herington in view of Sankaranarayan teach all the limitations of claim as presented above per claim 34.

It would have been obvious for one of ordinary skill in the art at the time of the invention the nodes (240-250 in figure 2 taught in Herington) include an uninitialized (one of any intersecting nodes 242-248 is installed for the application 255 but has not been used for the application execution), uninstalled (the node 250 is not installed with the application 255) or unassigned node (any node newly included in either clusters).

Regarding claims 39 and 40, the plurality of nodes are server computers (see, e.g., page 1, paragraph [0014]) are capable of running any applications including stock trades and optimization of a stock portfolio.

Regarding claim 41, Herington teaches as follows:

wherein the service level agreement (interpreted as performance goals)

negotiated with the client for the transaction application workload is also applicable to

the parallel application workload (performance goals for both of two applications, see,

e.g., page 2, paragraph [0022]).

Regarding claim 42, Romero teaches as follows:

wherein the performance requirements for execution of the transaction

application workload specified in the service level agreement comprises throughput

requirements (the requested level of service can be a specific parameter such

processing capacity, see, e.g., page 2, paragraph [0023]).

Regarding claim 43, Herington teaches as follows:

wherein the performance requirements for execution of the transaction

application workload specified in the service level agreement comprises response time

requirements (performance goals include response time, see, e.g., page 2, paragraph

[0022]).

Regarding claim 44, Romero teaches as follows:

wherein the performance requirements for execution of the transaction

application workload specified in the service level agreement comprises availability

requirements (status of a particular server such as availability, see, e.g., page 3,

paragraph [0027]).

Regarding claims 45 and 46, it is well known in the art at the time of the invention

to include the downtime requirement and penalty function in the SLA.

Regarding claim 47, Herington teaches as follows:

monitoring one or more of a transaction rate, a transaction response time,

availability of a server node, and utilization of a server node (workload manger receives

performance information from applications, see, e.g., page 2, paragraph [0023]).

Regarding claim 48, Herington teaches as follows:

wherein reassignment of the one or more server nodes assigned to execute the

parallel application workload to the execution of the transaction application workload is

based on prioritization of the service level agreement negotiated for the transaction

application workload (relative priority of importance associated, see, e.g., page 2,

paragraph [0022]).

The incorporated McCarthy further teaches that the workload manager allocates

application's partition bases on the goal information and priority information from a user

or administrator and performance information (see, e.g., col. 2, lines 27-40).

Regarding claim 49, it is obvious to negotiate the priority based on the penalty

listed in the SLA.

Response to Arguments

6.   Applicant's arguments with respect to claims 34-49 have been considered but are

moot in view of the new ground(s) of rejection.

A.   Summary of Applicant's Arguments

In the remarks, the applicant argues as followings:

1) Herington does not disclose a method for supporting a transaction application

workload and a parallel application workload.

2) Herington does not disclose a method for supporting a transaction application workload and a parallel application workload on one server cluster.

3) Herington does not disclose receiving a request from a client to execute the transaction application workload on the one server cluster, the one server cluster including server nodes at one domain.

4) Herington does not disclose identifying a service level agreement negotiated with the client for the transaction application workload, the service level agreement specifying performance requirements for execution of the transaction application workload on the one server cluster.

5) Herington does not disclose assigning a subset of the server nodes in the one server cluster at the one domain to execute the transaction application workload;

6) Herington does not disclose monitoring execution of the transaction application workload on the subset of server nodes assigned to execute the transaction application workload to determine whether the performance requirements for execution of the transaction application workload specified in the service level agreement are being met.

7) Herington does not disclose provide for being responsive to a determination that the performance requirements for execution of the transaction application workload specified in the service level agreement are not being met, dynamically reassigning one or more of the server nodes in the one server cluster at the one domain assigned to execute the parallel application workload to the execution of the transaction application

workload in order to meet the performance requirements for execution of the transaction

application workload specified in the service level agreement.

8) Herington does not disclose a method on one server cluster at one domain

where wherein a server node assigned to execute the transaction application workload

is not concurrently assigned to execute the parallel application workload and a server

node assigned to execute the parallel application workload is not concurrently assigned

to execute the transaction application workload.

B.   Response to Arguments:

In response to argument 1), Herington teaches two types of application used in

each cluster, wherein the application might be any type of application required for any

purpose. A recitation of the intended use of the claimed invention must result in a

structural difference between the claimed invention and the prior art in order to

patentably distinguish the claimed invention from the prior art. If the prior art structure is

capable of performing the intended use, then it meets the claim.

In response to argument 2), Herington teaches two type of application (355 and

360 in figure 3) applied in each cluster (320 or 330 in figure 3)(see, e.g., page 2,

paragraph [0021]).

In response to argument 3), Herington teaches that the clients (302-306 in figure

3) issue transactions to applications (355 and 360 in figure 3)(interpreted as the client's

requesting step, see, e.g., page 2, paragraph [0021]).

In response to argument 4), Herington teaches that a performance goals

describes the desired level of performance of applications (see, e.g., page 2, paragraph

[0022]). The incorporated Romero teaches an apparatus and method for routing a

transaction to a server based on a requested level of service associated with the

transaction (see, e.g., abstract and page 3, paragraph [0027]-[0028]).

In response to argument 5), Herington does not teach reassigning the node but

reassigning computer resources.

Sankaranarayan teaches as follows:

resource manager (102 in figure 2) assigns resources to all descriptors contained

in the listed activities using a provider supplied resource allocation function in a priority

based scheme, see, e.g., col. 11, lines 45-62 and figure 3);

resource allocation process using priority-based preemption (see, e.g., col. 14,

lines 55-59 and figure 6); and

reallocating the resource from lower priority activity to the higher priority activity

(see, e.g., col. 15, lines 8-48 and figure 6).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Herington to include a resource manager allocating a resource

provider depends current request from clients as taught by Sankaranarayan in order to

efficiently allocate the intersecting nodes (242-248 in figure 2) to one of applications

(255 or 260) based on the current request from clients.

In response to argument 6), Herington teaches that the workload manger

monitoring the performance by receiving performance information from applications

(see, e.g., page 2, paragraph [0023]).

In response to argument 7), Herington teaches that the workload manager dynamically allocates and adjusts computer resources between applications based on performance goals and performance information (see, e.g., page 2, paragraph [0024]). In response to argument 8), the incorporated McCarthy further teaches that the workload manager allocates application's partition bases on the goal information and priority information from a user or administrator and performance information (see, e.g., col. 2, lines 27-40). Therefore it is inherent to assign 100% of resource for one application.

Herington does not teach reassigning the node but reassigning computer resources.

Sankaranarayan teaches as follows:

resource manager (102 in figure 2) assigns resources to all descriptors contained in the listed activities using a provider supplied resource allocation function in a priority based scheme, see, e.g., col. 11, lines 45-62 and figure 3);

resource allocation process using priority-based preemption (see, e.g., col. 14, lines 55-59 and figure 6); and

reallocating the resource from lower priority activity to the higher priority activity (see, e.g., col. 15, lines 8-48 and figure 6).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Herington to include a resource manager allocating a resource provider depends current request from clients as taught by Sankaranarayan in order to

efficiently allocate the intersecting nodes (242-248 in figure 2) to one of applications

(255 or 260) based on the current request from clients.

Double Patenting

7.   A rejection based on double patenting of the "same invention" type finds its
support in the language of 35 U.S.C. 101 which states that "whoever invents or
discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis
added). Thus, the term "same invention," in this context, means an invention drawn to
identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re
Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164
USPQ 619 (CCPA 1970).
        The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

8.   Claims 34 and 35 are provisionally rejected under 35 U.S.C. 101 as claiming the

same invention as that of claims 34 and 35 of copending Application No. 10/763,135.

        The claims of Application 135' teaches a method for supporting application

workloads across multiple domain and the application 916' teaches a method for

supporting a transaction and a parallel application workloads on one server cluster.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the multiple domains into one server cluster and specifying the application workloads with the transaction and the parallel application workloads.

"A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus)." ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Court, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEONG S. PARK whose telephone number is (571)270-1597. The examiner can normally be reached on Monday through Friday 7:00 - 3:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. P./
Examiner, Art Unit 2154

September 15, 2008

/Joseph E. Avellino/

Primary Examiner, Art Unit 2146